

# February Climate Summary for Southwest Lower Michigan

***Jānis (John) Laurens***  
***National Weather Service Grand Rapids, MI***

## Overview

February 2010 had near to slightly above normal temperatures and above normal snowfall and was notable for very persistent snow cover of at least an inch at most locations throughout the month. Several significant snow events impacted the area. One of the more significant snow events occurred from February 9<sup>th</sup> through February 10<sup>th</sup> when areas near and south of a line from Muskegon to Alma received 8 to 12 inches of snow.

Another notable event occurred from February 23<sup>rd</sup> through the 24<sup>th</sup>, when a fairly narrow strip of 8 to 12 inches of snow was reported from Ottawa County north to Mason County as a result of lake enhancement. There was not a single day in Grand Rapids, Lansing or Muskegon on which the calendar day average temperature was more than ten degrees above or below normal.

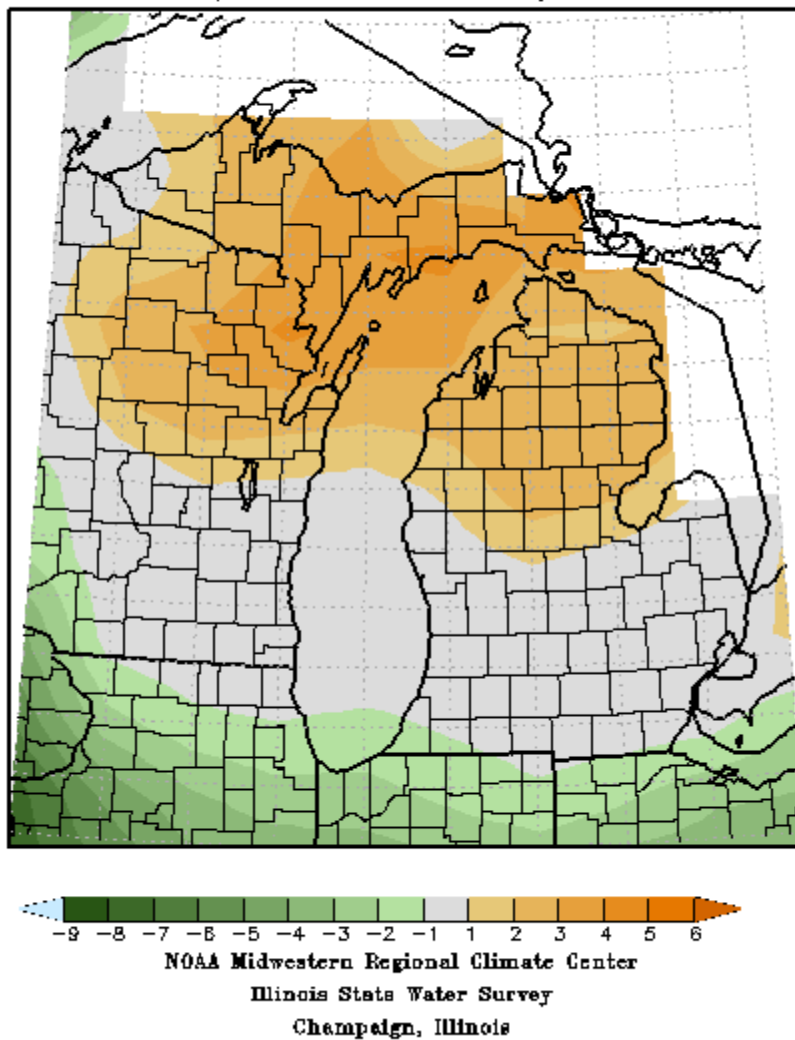
**Table 1.** Reported temperature, precipitation, and snowfall for February 2010 in Grand Rapids, Lansing, and Muskegon.

Location		Temperature (degrees F)	Precipitation (inches)	Snowfall (inches)
Grand Rapids	<i>Reported</i>	27.2	1.80	24.8
	<i>Normal</i>	25.0	1.54	12.2
	<i>Departure</i>	+2.2	+0.26	+12.6
Lansing	<i>Reported</i>	25.4	1.35	20.6
	<i>Normal</i>	24.0	1.45	10.6
	<i>Departure</i>	+1.4	-0.10	+10.0
Muskegon	<i>Reported</i>	26.6	2.02	28.1
	<i>Normal</i>	25.4	1.58	18.3
	<i>Departure</i>	+1.2	+0.44	+9.8

## February Climate Summary for Southwest Lower Michigan

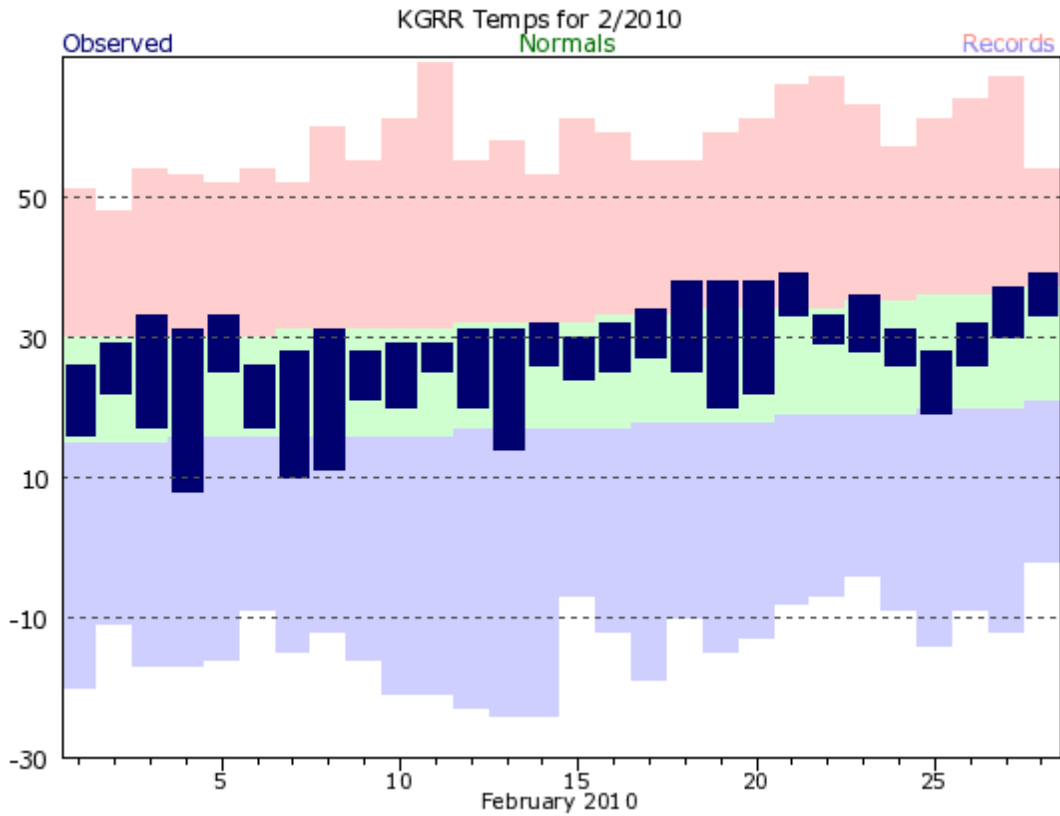
### Temperature Summary for February:

Average Temperature Departure from Mean in Degrees F  
February 1, 2010 to February 28, 2010



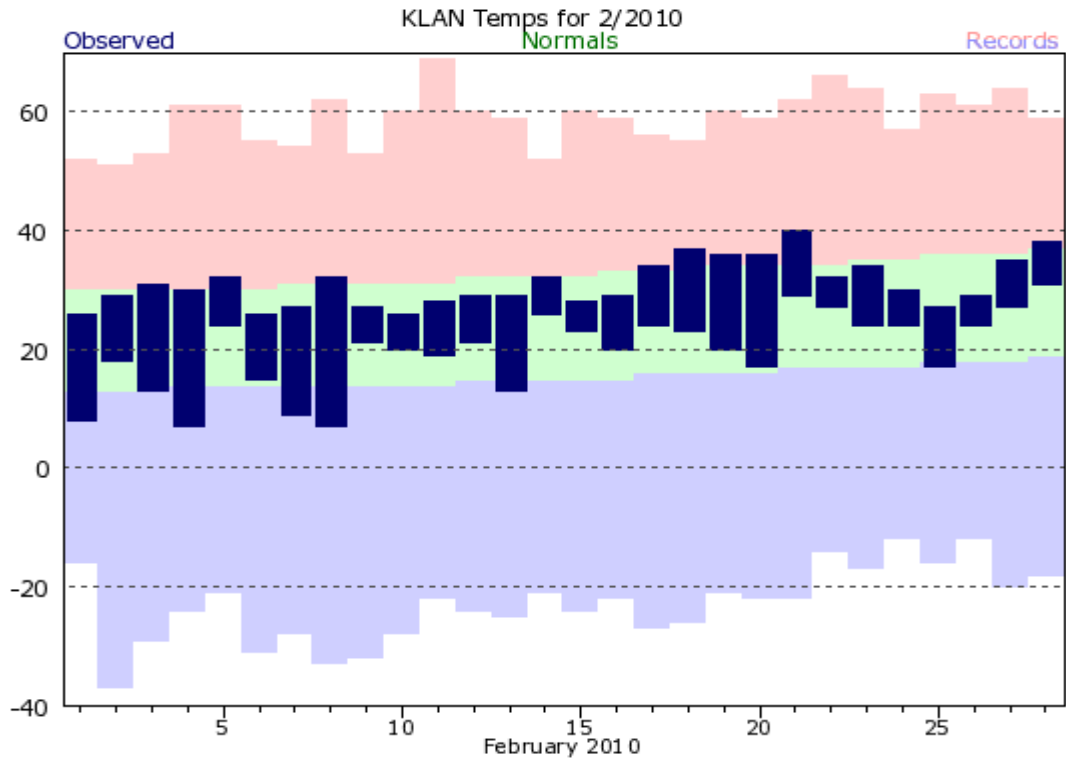
**Figure 1.** Average temperature departure from normal during February 2010.

## February Climate Summary for Southwest Lower Michigan

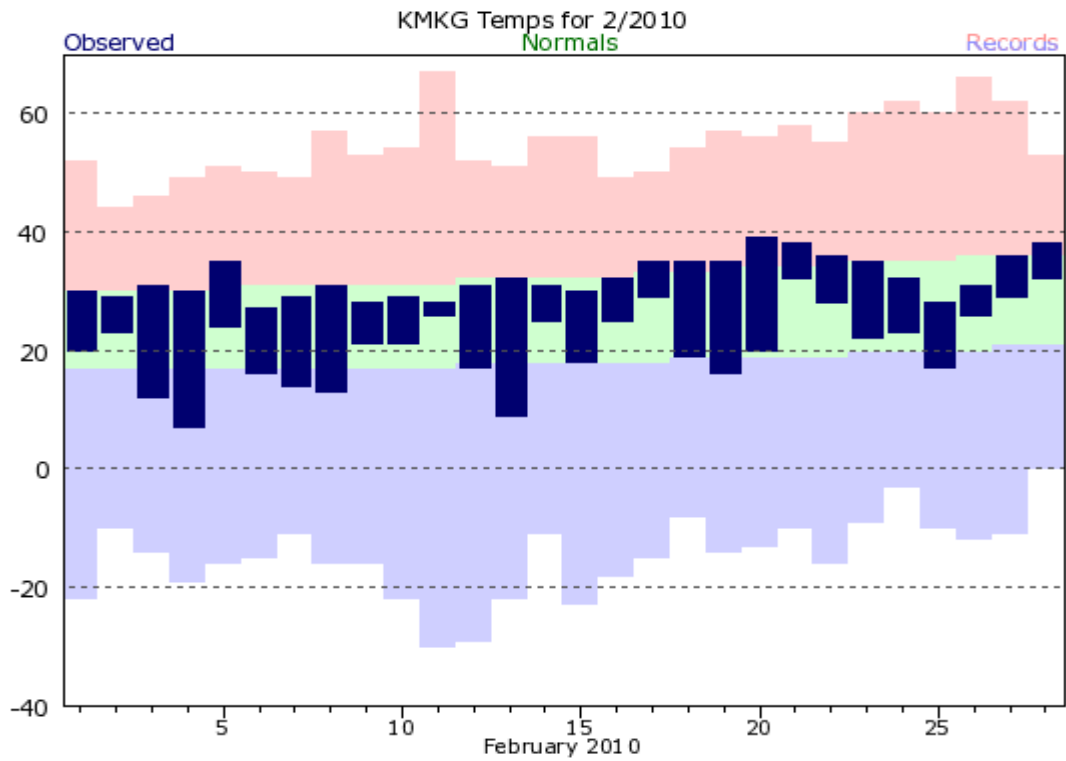


**Figure 2.** Observed temperatures at the G.R. Ford International Airport. Dark blue bars are the temperature range for each day. The orange strip indicates the normal range of temperatures. Record high and low temperatures are indicated at the top of the pink area and the bottom of the blue area, respectively.

## February Climate Summary for Southwest Lower Michigan



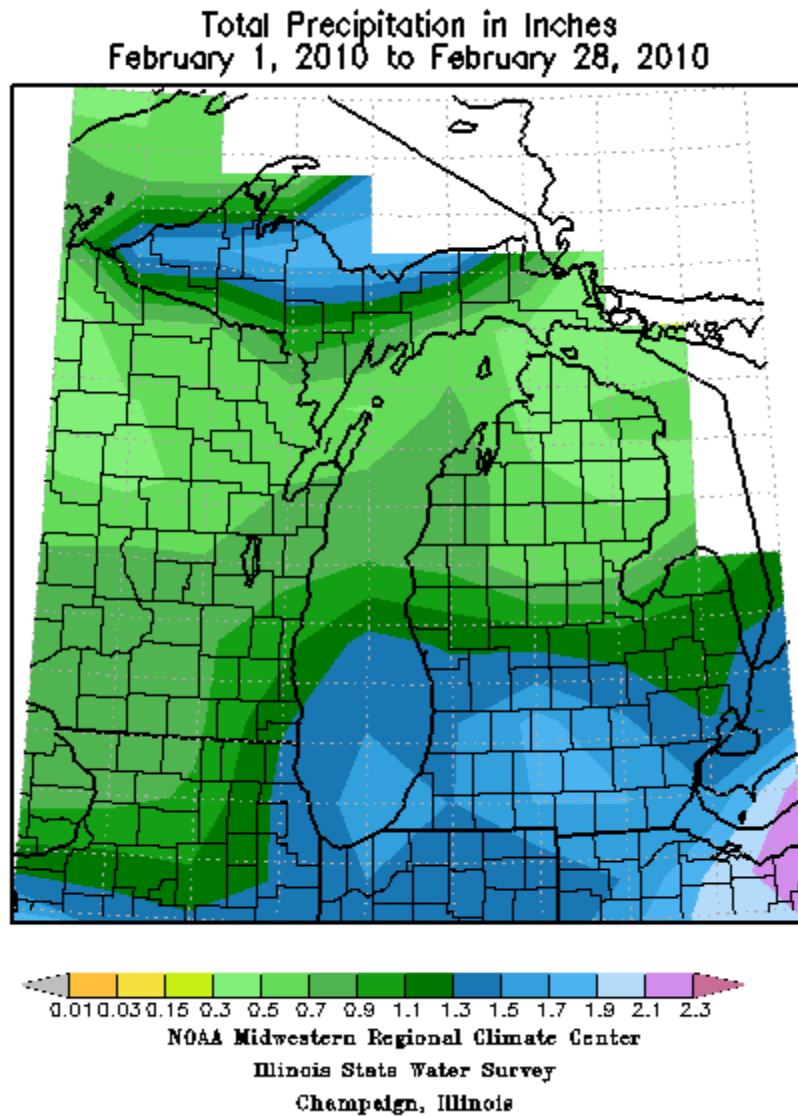
**Figure 3.** As in Figure 2, except for the Lansing/Capital City airport.



**Figure 4.** As in Figure 3, except for the Muskegon County airport.

## February Climate Summary for Southwest Lower Michigan

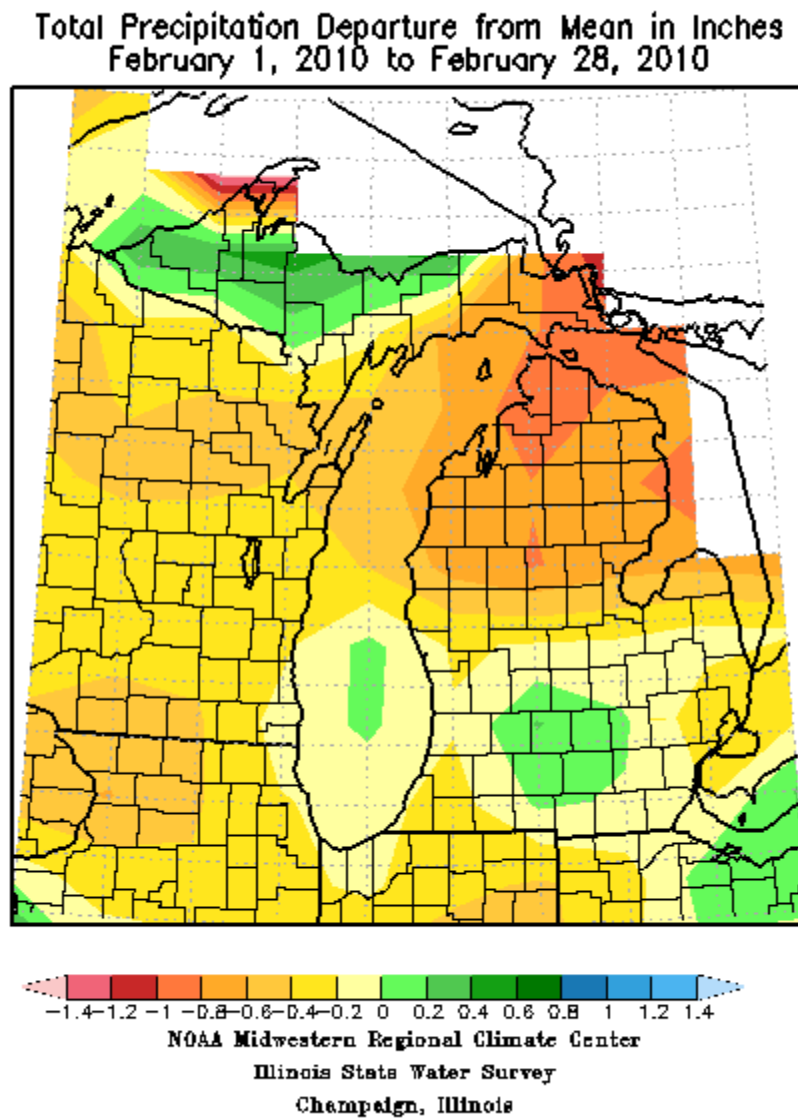
### Precipitation Summary for February:



**Figure 5.** Total precipitation for February 2010.

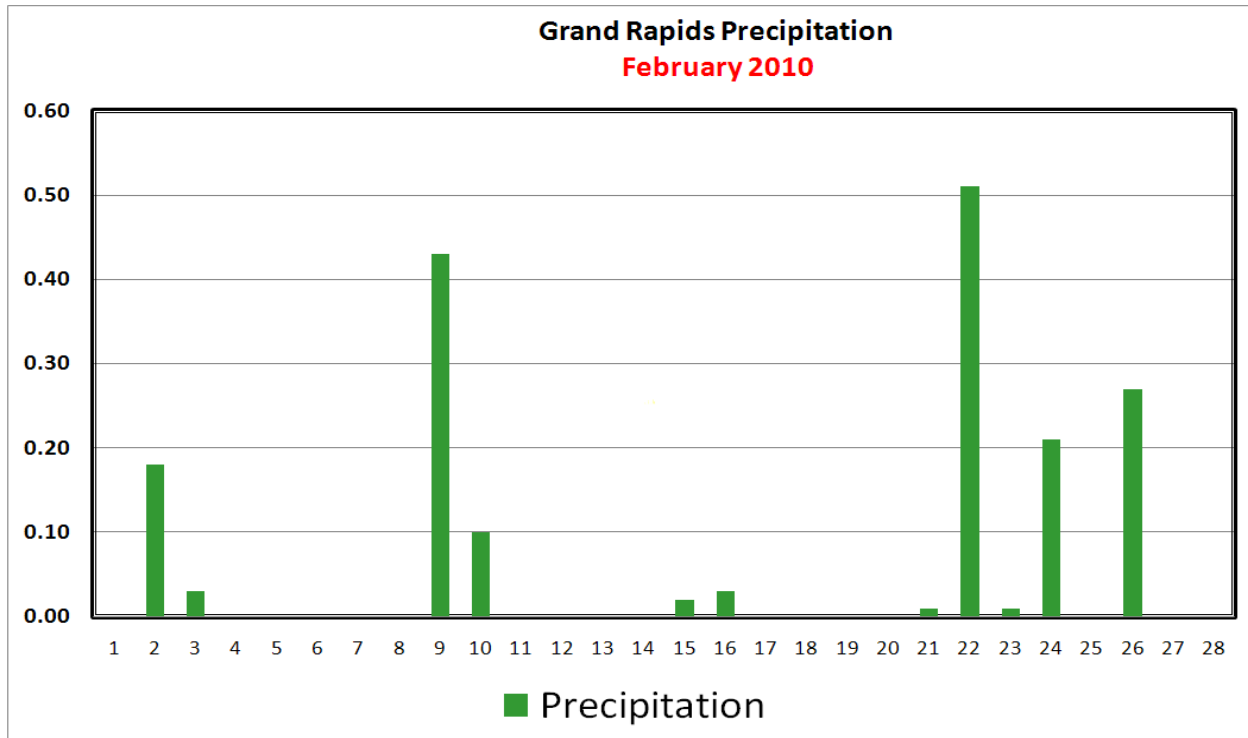
Total precipitation amounts were the highest for the month near and south of I-96.

## February Climate Summary for Southwest Lower Michigan

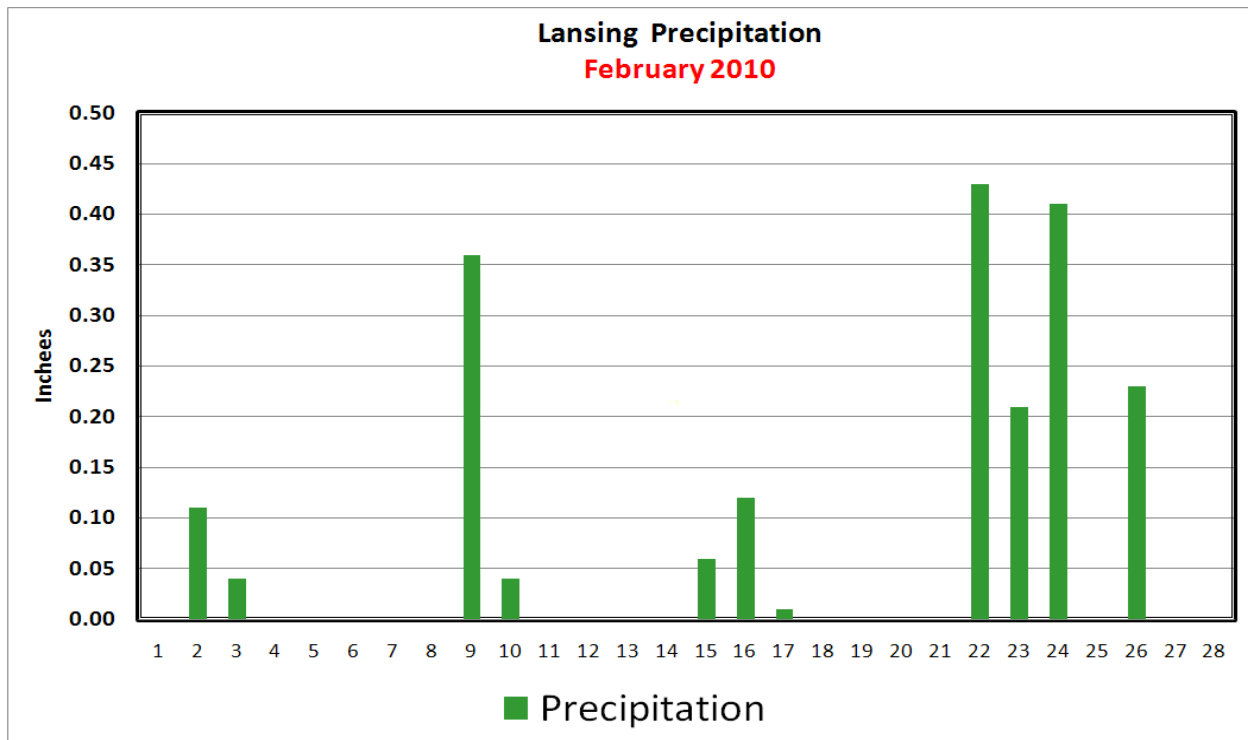


**Figure 6.** Precipitation departure from normal during February 2010.

## February Climate Summary for Southwest Lower Michigan

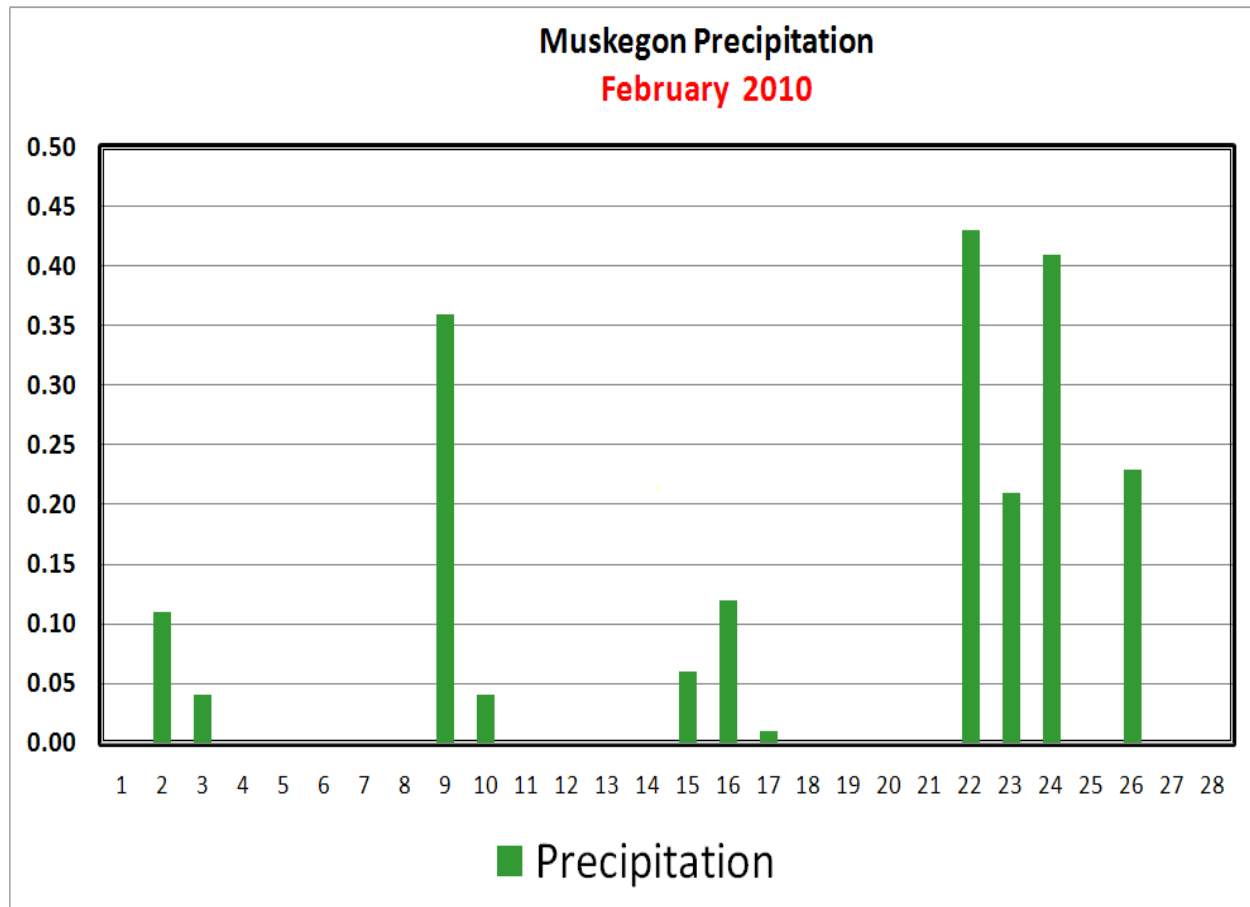


**Figure 7.** Daily precipitation in inches for February 2010 at the G.R. Ford International Airport.



**Figure 8.** As in Figure 7, except for the Lansing Capital City Airport.

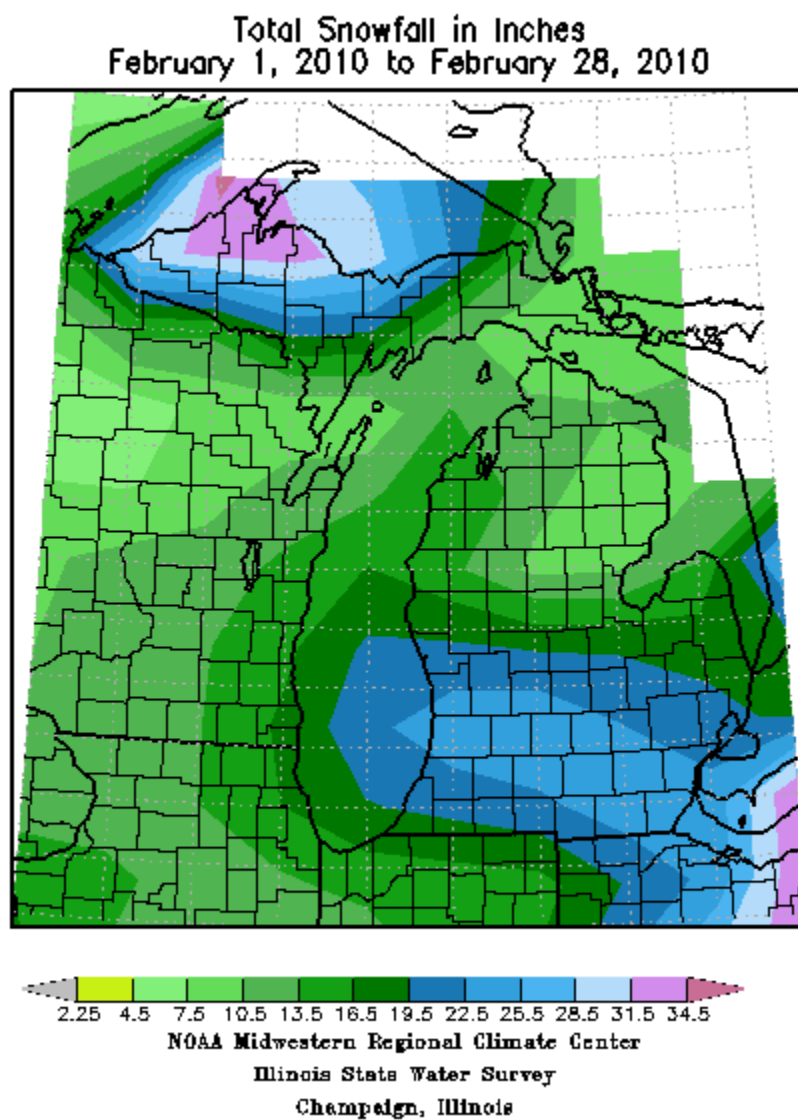
## February Climate Summary for Southwest Lower Michigan



**Figure 9.** As in Figure 7, except for the Muskegon County Airport.



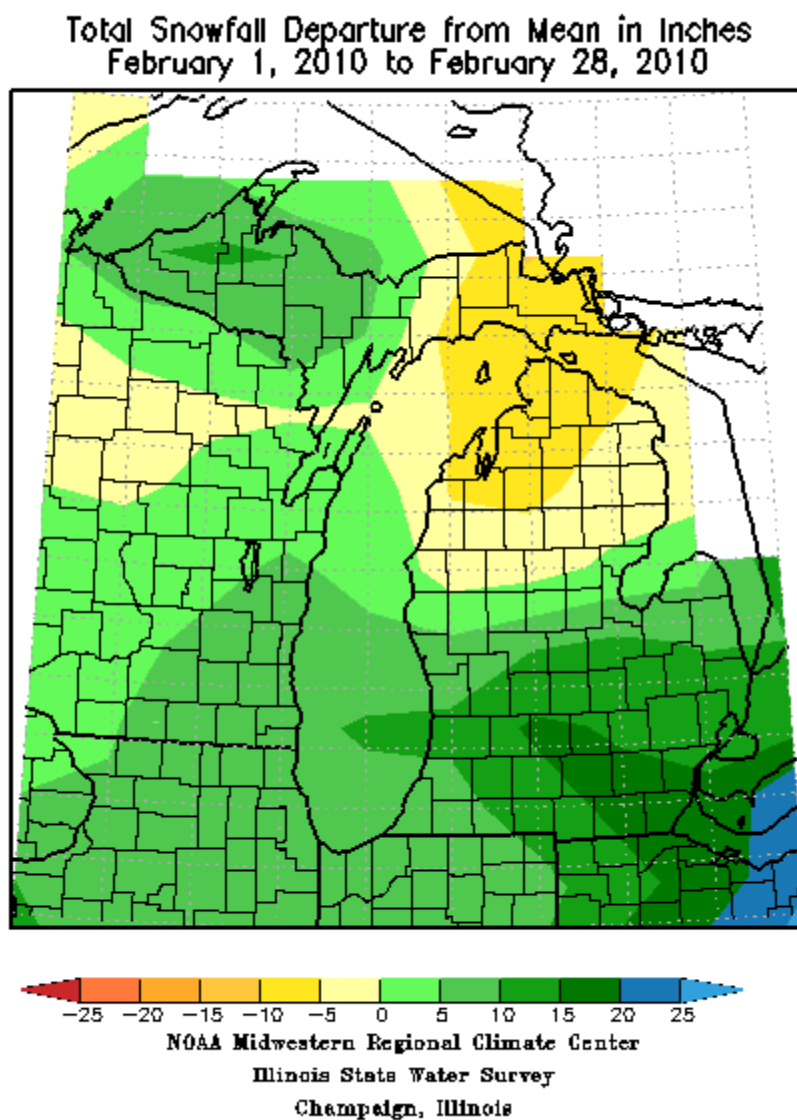
## February Climate Summary for Southwest Lower Michigan



**Figure 10.** The total snowfall for February 2010.

Areas near and south of I-96 received the most snow for the month.

## February Climate Summary for Southwest Lower Michigan

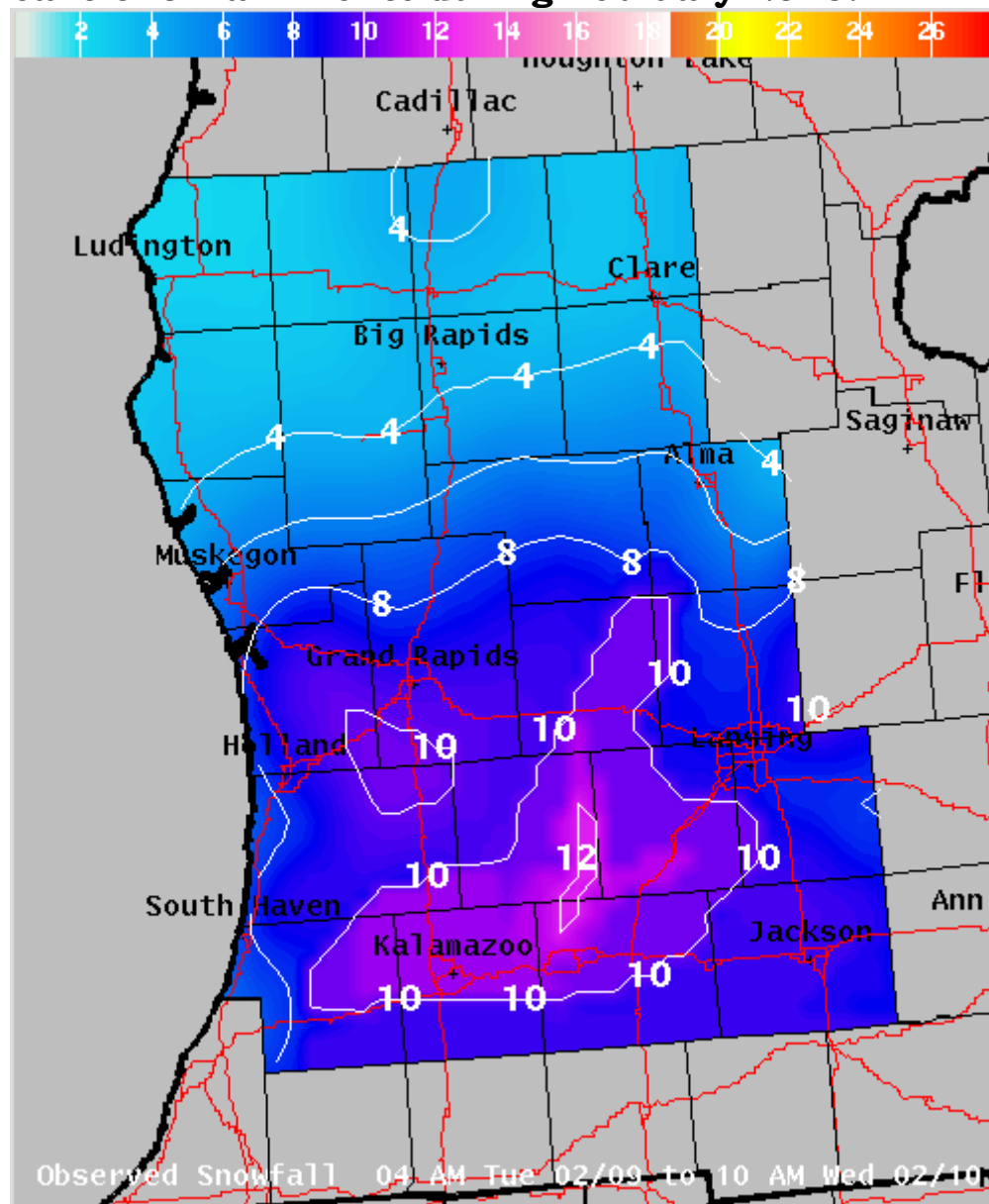


**Figure 11.** Snowfall departure from normal for February 2010.

February 2010 will be remembered for above normal snowfall across the southern half of Lower Michigan.

## February Climate Summary for Southwest Lower Michigan

### Significant Snowfall Events during February 2010:



**Figure 12.** Snowfall event totals from February 9th through February 10th.

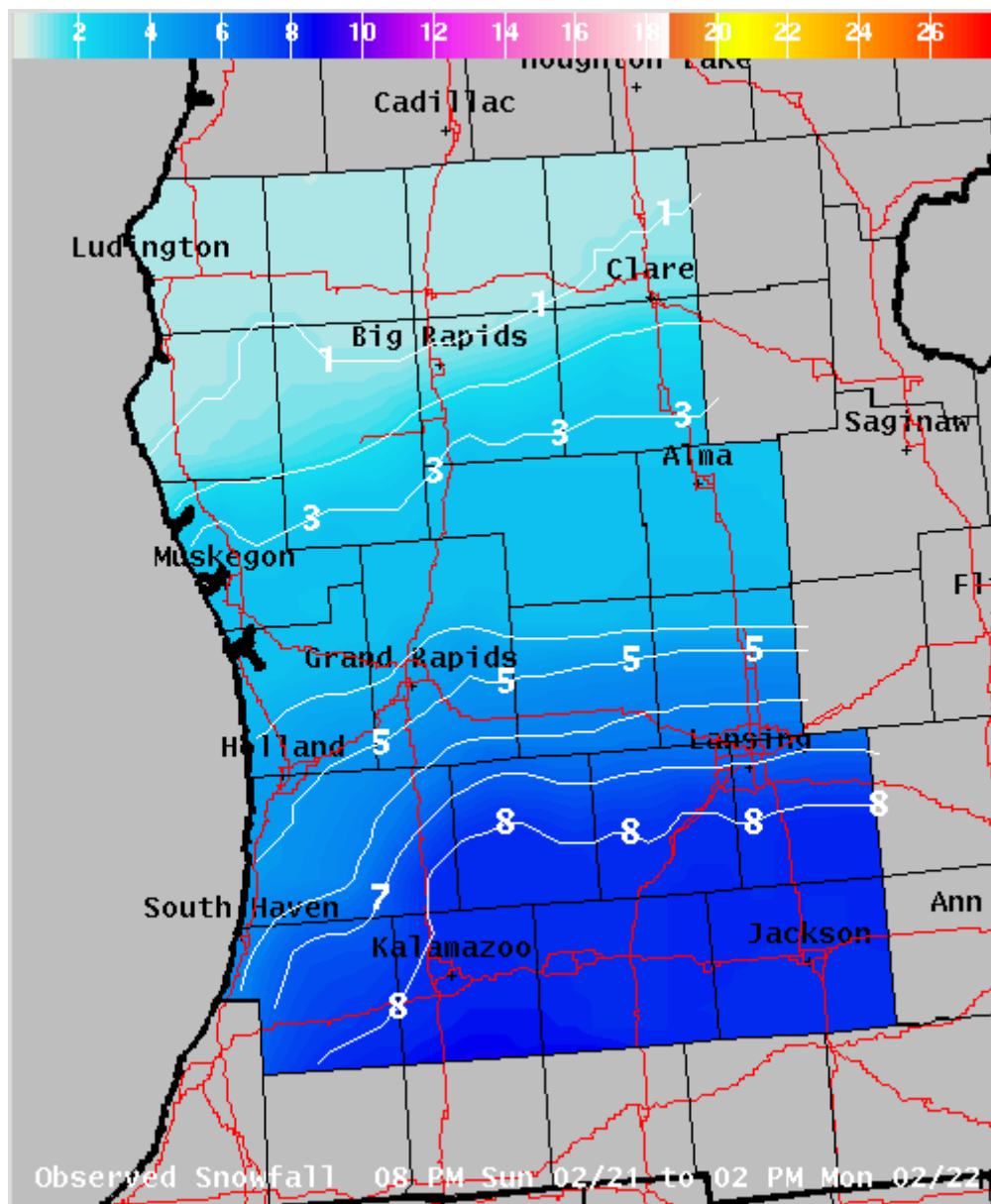
Heavy snow fell over a large part of Southwest Lower Michigan from Tuesday morning of February 9th through the mid morning hours of Wednesday, February 10th. The snowfall was heaviest during the late afternoon until around midnight. Grand Rapids reported 4 inches of snow between 7 PM and 10 PM in the evening.

Most of the area south of a line from Muskegon to Alma to south of Interstate 94 had between 8 and 12 inches of snow. Battle Creek reported the heaviest snowfall with 12 inches. Grand Rapids had the fifth heaviest midnight

## **February Climate Summary for Southwest Lower Michigan**

to midnight snowfall ever measured in February with 8.1 inches on the 9th. The two day total of 9.7 inches is the 8th greatest for February. The 14.3 inches that fell between February 2nd and 3rd in 2007 was the greatest two day snowfall for Grand Rapids. The greatest one day total was 11.3 inches on the 3rd of February in 2007.

## February Climate Summary for Southwest Lower Michigan



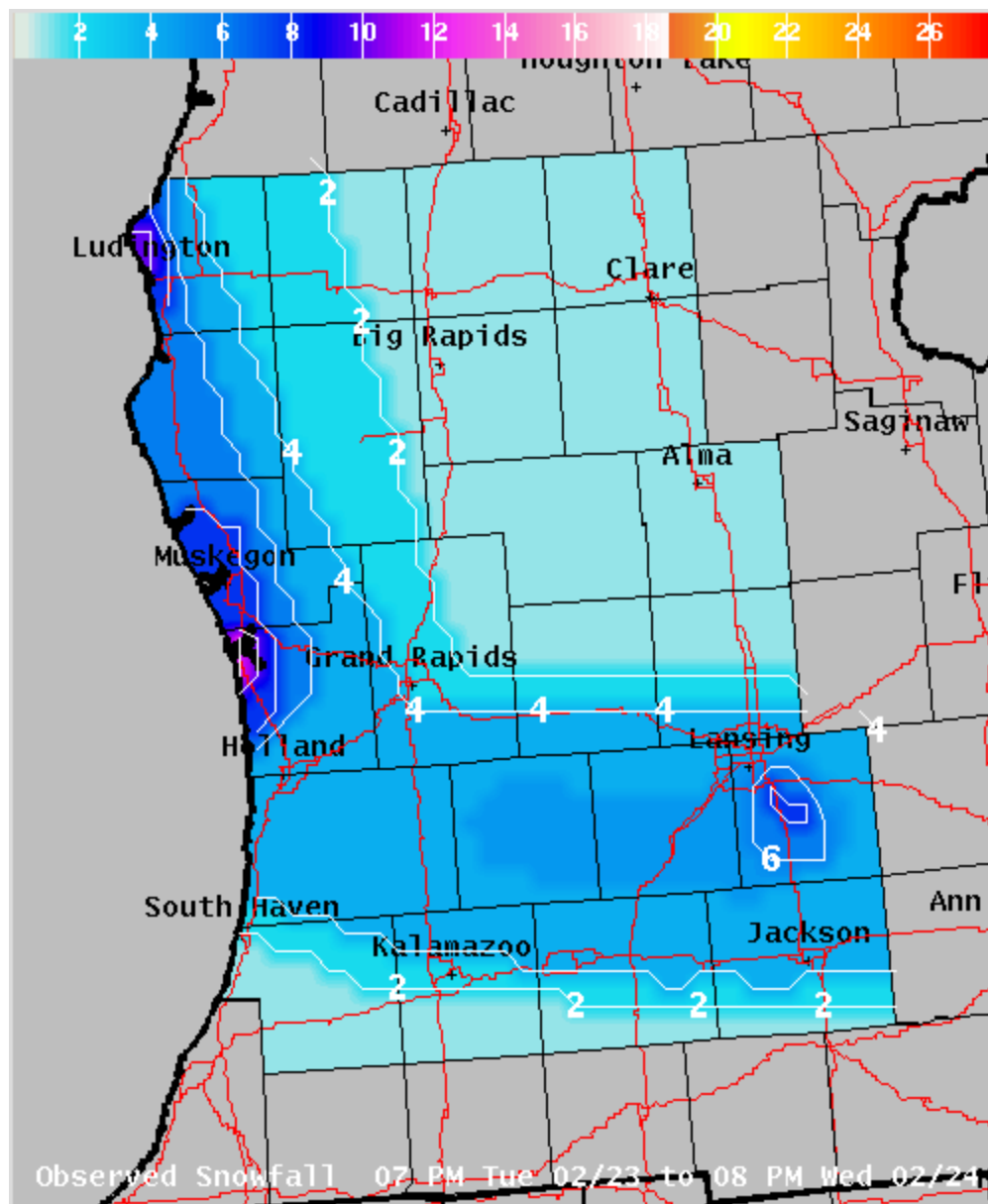
**Figure 13.** Total snowfall amounts from February 21<sup>st</sup> through February 22<sup>nd</sup>.

The snow began along the I-94 corridor just after 7 PM on Sunday, February 21<sup>st</sup> as a storm system developed over central Missouri. The center of the storm then tracked toward southwest Indiana by 5 AM on Monday February 22<sup>nd</sup>. The snow has overspread all of Southwest Lower Michigan at that point. The snowfall by then ranged from 2 to 4 inches near I-94 from Jackson to Kalamazoo, while areas between Grand Rapids and Lansing had accumulated between 1 and 2 inches of snow. As the storm's center reached near Toledo, Ohio around 1 PM in the afternoon of Monday, February 22<sup>nd</sup> the snow was ending over Southwest Lower Michigan in all areas except near I-69.

## **February Climate Summary for Southwest Lower Michigan**

Finally, as the storm center passed near Sandusky Ohio around 7 PM in the evening of Monday February 22nd the snow had come to an end across the entire area. Snowfall amounts ranged from around 8 inches near Jackson to 5 inches in the Grand Rapids area to around an inch in Big Rapids. Numerous school closings were reported Monday, mostly south of the Grand Rapids area.

## February Climate Summary for Southwest Lower Michigan



**Figure 14.** Snowfall from the 23rd to the 24th of February.

A weak low pressure system passed through the region Tuesday night into Wednesday. As it did so, it picked up added moisture from the Great Lakes. Snowfall associated with the system was enhanced by the lakes and some lake effect snow bands developed. Some areas almost entirely missed out on this event, particularly across extreme Southwest Lower Michigan. Other areas received 8 to 12 inches of storm total snowfall. The high variability in snowfall amounts points toward the effects our Great Lakes have on accumulated snowfall.

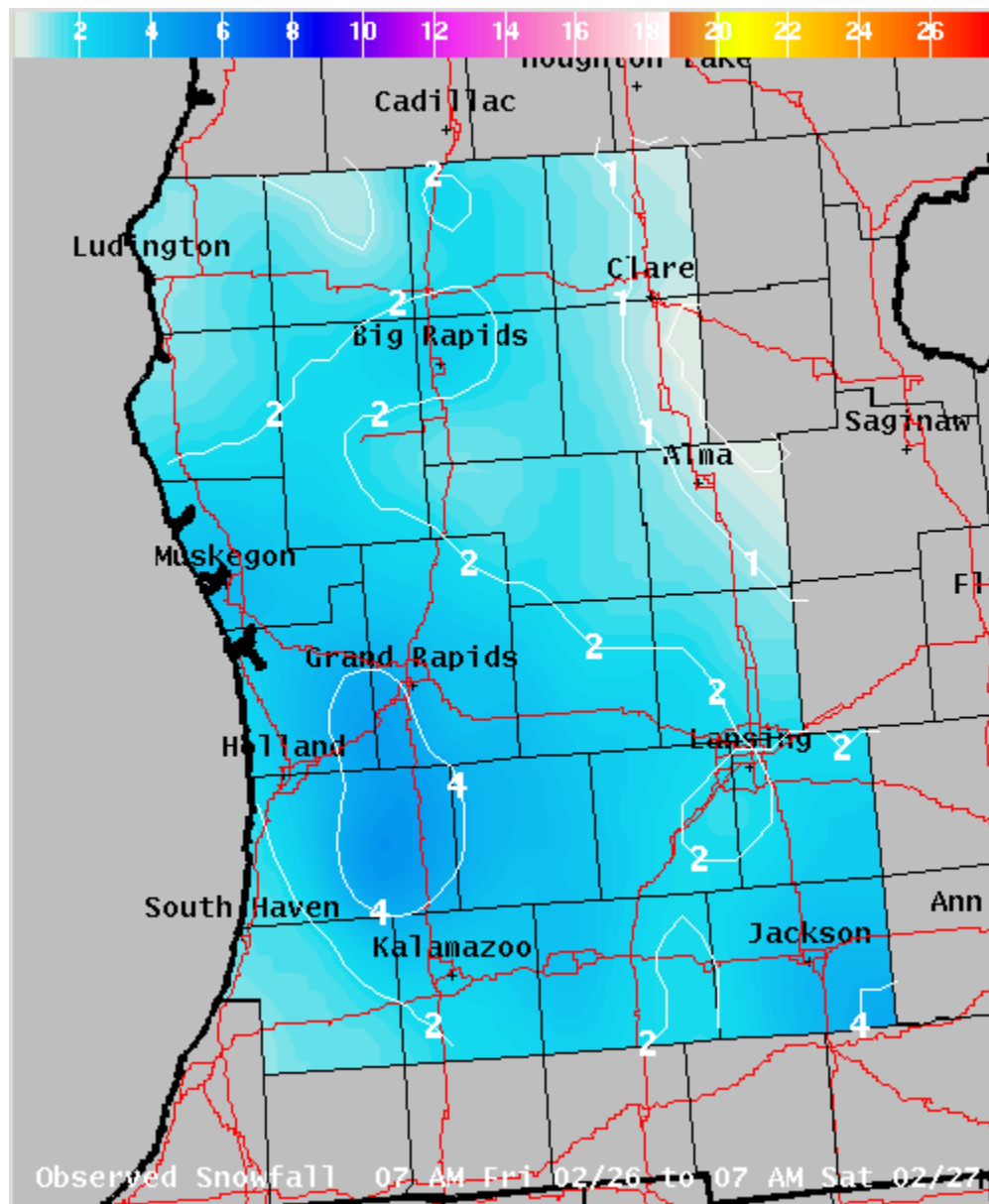
Trace amounts up to half an inch of snow was reported in Van Buren County; while further north up the coast the accumulations were significant. From Ottawa County north to Mason County, accumulations ranged from about

## **February Climate Summary for Southwest Lower Michigan**

4 inches to 12 inches. The highest amounts appeared to be near Big Sable Point and Little Sable Point. Inland areas received varying amounts of snow ranging from an inch or so up to nearly 8 inches south of Lansing.



## February Climate Summary for Southwest Lower Michigan



**Figure 15.** Snowfall totals from the 26<sup>th</sup> to 27<sup>th</sup> of February.

An unusual system affected Lower Michigan during the day on Friday, February 26th. The system was unusual as it moved into the area from east to west. This occurred as a small portion of the storm system that affected the northeast portion of the country from Wednesday through Friday rotated back into Michigan.

Snow amounts generally ranged from 1 to 4 inches across the area. The heaviest amounts were found just southwest of Grand Rapids, in between Grand Rapids, Holland, and Kalamazoo. The snow caused roads to become

## **February Climate Summary for Southwest Lower Michigan**

slippery once again as the snow initially melted upon contact Friday afternoon, then froze Friday evening.